



Pioneer® brand 11G22 is a grass/cereals/lucerne silage inoculant with next-generation *Lactobacillus buchneri* designed to:

- Enhance fermentation in grass and whole plant cereal silage and deliver improved fermentation and a fermentation acid profile that minimises aerobic dry matter losses
- Be used in grass and whole plant cereals ensiled at the appropriate maturity and at a dry matter between 30% and 42%.

Available as a water-soluble product in packaging suitable for use in tank mixes or with the Pioneer Appli-Pro® systems for easy and convenient application.

11G22 contains a unique blend of patented and/or proprietary strains of *Lactobacillus buchneri* and *Lactobacillus plantarum* formulated to:

- Improve silage quality providing low terminal pH and desirable Volatile Fatty Acid (VFA) profile for decreased fermentation loss and enhanced aerobic stability
- Improve animal performance.

Includes Rapid React® aerobic stability technology. This provides more enduring aerobic stability and aerobically stable feed as soon as seven days after ensiling.*

Available in Package Sizes:	
X	Improves fermentation and reduces dry matter loss
X	Improves nutrient preservation
X	Significantly reduces heating at the silage face
X	Helps reduce heating in entire Total Mix Rations (TMR)
	Improves fibre digestibility

IMPORTANT: Information and ratings are based on relative comparisons with other Pioneer® brand inoculants within each specific crop, not competitive products. Information and ratings are assigned by Pioneer Forage Additive Research, based on average performance across area of use under normal conditions, over a wide range of both environment and management conditions, and may not predict future results. Product responses are variable and subject to any number of environmental and management conditions. Please use this information as only part of your product positioning decision. Contact a Pioneer sales professional for the latest and most complete listing of traits and scores for each Pioneer® brand product. Fermentation – rate and extent of pH decline and the composition of fermentation acids occurring in silage. Aerobic Stability – relative heat development compared to ambient temperature. Aerobic Stability considers both how quickly silage begins to heat and the amount of heat generated while remaining above ambient temperature. Fibre Digestibility – the digestibility of neutral detergent fiber (NDF) by the ruminant animal expressed as a percentage of the total NDF.

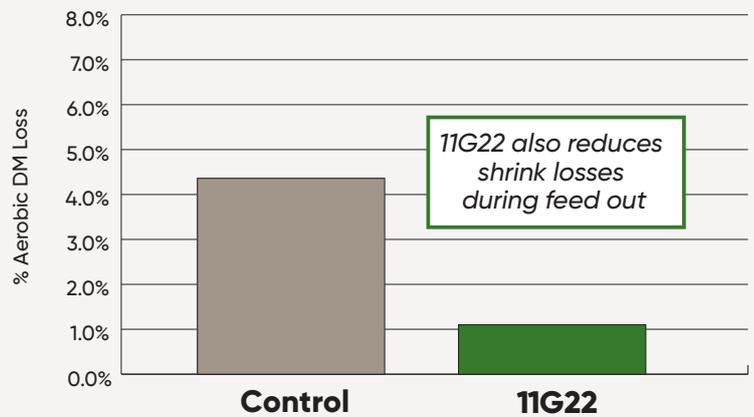
*Disclosure: Improved aerobic stability and reduced heating is relative to untreated silage. Actual results may vary. The effect of any silage inoculant is dependent upon management at harvest, storage and feedout. Factors such as moisture, maturity, chop length and compaction will determine inoculant efficacy.

pH and Aerobic Stability Trials

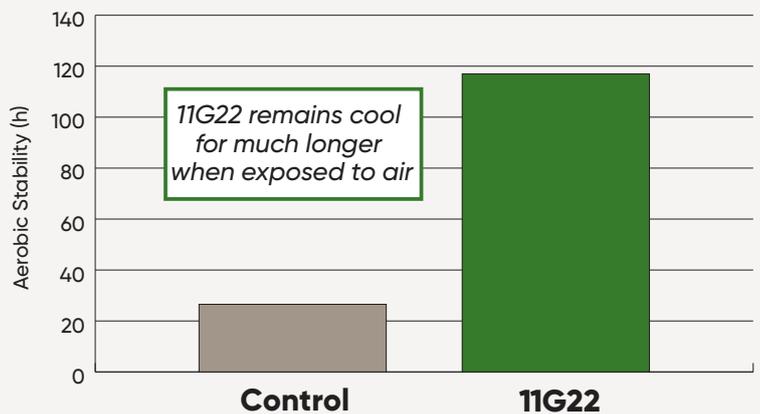
Inoculated and Untreated Grass Silage

Item ^{1,2}	Control	11G22
DM, %	39.55	40.03
pH	4.83	4.86
DM recovery, %	89.51 ^a	92.84 ^b
Aerobic stability, hours	25.50 ^a	116.25 ^b
Aerobic DM loss, %	4.37% ^b	1.07% ^a

Shrink Loss in Grass Silage



Grass Silage Effects on Aerobic Stability When Subjected to Air



Source: Pioneer Livestock Nutrition Center, Iowa. Summary of two trials. Dry matter recovery, aerobic stability, and nutrient composition were determined for uninoculated (Control) grass silage and for grass silage inoculated with Pioneer® inoculant 11G22 Grass Silage Inoculant.

¹ All values are expressed as least squares means

² Dry matter loss as measured during the aerobic stability test.

^{a,b} Treatment means in same row without a common superscript letter differ (P < .05).



Pioneer® Brand Inoculants

Pioneer proprietary silage inoculants continue to provide those striving to make high quality silage with unique products that reduce silage dry matter losses and improve silage quality.

Mode of Actions	Product	Forage	Purpose
Unique Fibre Technology	11GFT	Grass and wholecrop cereal silages	Fermentation, animal performance and fibre digestibility, aerobic stability
	11CFT	Maize silage	Fermentation, animal performance and fibre digestibility, aerobic stability
	11AFT	Lucerne silage	Fermentation, animal performance and fibre digestibility, aerobic stability
	11CH4	A wide range of high dry matter silages	Aerobic stability and gas production
Traditional Technology with Rapid React	PIONEER® 11G22 RAPID REACT AEROBIC STABILITY	High dry matter grass, wholecrop cereal and pea/cereal silages	Fermentation, animal performance and aerobic stability
	PIONEER® 11C33 RAPID REACT AEROBIC STABILITY	Maize silage	Fermentation, animal performance and aerobic stability
	PIONEER® 11B91 RAPID REACT AEROBIC STABILITY	Crimped maize grain	Fermentation, animal performance and aerobic stability
	PIONEER® 1188	Grass silage below 30% dry matter	Fermentation and animal performance
	PIONEER® 11A44	A wide range of high dry matter silages	Aerobic stability